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DATE: February 15, 2002

T0: Brian K. Davis, Senior Planner

FROM: Danny Hatch, County Soil Scientist

SUBJECT: Semple Limited Family Partnership SE-02-S-13; SE02-S-14 and CPA02-S-04

A Type I Soil Map was conducted on this parcel on June 18, 2001. This involved walking over the entire property, boring auger holes and drafting the different soil types and cultural features onto the 1 inch = 400 foot base map. Being very familiar with this parcel, the following comments are made:

- The dominant soil type where the primary disposal area is proposed is Glenelg. This very deep, fine-loamy, well drained soil is rated good for conventional drainfields.

- The 60 mpi rate used to determine the approximate disposal area is reasonable for this soil type. Saturated hydraulic conductivity (K-sat) tests should be run to determine a permeability rate that will be used for specific design criteria. These test will also be needed to determine where water mounding will occur in these mass drainfield areas. The exact primary and reserve disposal sites will be determined after the specific site / soil evaluations and the K-sat test have been completed and analysis.

- It appears the conveyance system will be transporting solids and liquid to a treatment facility. How much bio-solids will be produced in this process and will WSA accept the material that cannot be disposed of on site?

- The employment of a full time Class III Wastewater Treatment Operator is a must. Since this is not the typical ”treat and discharge” system, the operator needs to be experienced with these small-type treatment facilities and drip disposal. The County needs to be informed of any operation and maintaince requirements that VDH will mandate for this mass drainfield.

- The proposed open space does incorporate the floodplain and wetlands areas.

- There are several structures located on 15 to 25 percent slope next to the floodplain/wetland areas. The installation of proper E&S practices before construction begins will be very important to prevent sediment from flowing onto these sensitive areas.

- Due to the mica content, many of the soils on this property would be considered highly erosive. The erosion and sedimentation plans need to consider more filtration practices as compared to sedimentation. Special precaution will need to be addressed in stabilizing the cut-banks along the proposed road.

- Roads built on 53B, 53C, 53D, 55C, 33C and 33D mapping units will need to be designed to overcome the low bearing capacity caused by the substratum of these soil types, which are high in mica.